

What Is Claimed Is:

1. A method of filling a vial with a predetermined substance, comprising the following steps:

providing a vial; a resealable cap including a base portion substantially infusible in

5 response to the application of thermal energy thereto and compatible with the predetermined substance for exposure to the substance and for sealing the substance within the vial; a resealable portion overlying the base portion and being fusible in response to the application of thermal energy thereto; and a locking member engageable with the cap and vial for securing the cap to the vial;

10 prior to filling the vial with the predetermined substance, assembling the cap and locking member to the vial and forming a substantially gas-tight seal between the cap and vial;

sterilizing the assembled cap, locking member and vial;

penetrating the cap with a needle coupled in fluid communication with a source of the predetermined substance;

15 introducing the predetermined substance through the needle and into the interior of the vial;

withdrawing the needle from the cap; and

applying sufficient thermal energy to the penetrated region of the resealable portion of the cap to fuse the penetrated region and form a substantially gas-tight seal between the penetrated

20 region and the interior of the vial.

2. A method as defined in claim 1, further comprising the step of cauterizing the penetrable surface of the resealable portion prior to introducing the needle therethrough.

3. A method as defined in claim 1, wherein the cauterizing step includes engaging the penetrable surface of the resealable portion with a heated member to cauterize the surface.

5 4. A method as defined in claim 1, wherein the step of applying thermal energy to the penetrated region includes at least one of (i) transmitting radiation from a laser source onto the surface of the penetrated region to fuse the penetrated region; and (ii) engaging the surface of the penetrated region with a heated member to fuse the penetrated region.

10 5. A method as defined in claim 1, wherein the cauterizing step includes providing a laser source, and transmitting radiation from the laser source onto the penetrable surface of the resealable portion to cauterize the surface.

15 6. A method as defined in claim 1, further comprising the step of transmitting radiation at an approximately predetermined wavelength onto the penetrable surface of the resealable portion, and forming the penetrable surface of the resealable portion of a material that absorbs the predetermined wavelength to, in turn, absorb sufficient energy to cauterize said surface.